

BASHNIN, Yu.A.; KIDIN, I.N.; KAL'NER, V.D.

Effect of induction heating on the mechanical properties of
undercooled austenite decomposition products. Izv. vys. ucheb.
zav.; chern. met. 5 no.7:158-164 '62. (MIRA 15:8)

1. Moskovskiy institut stali i splavov.
(Steel, Stainless—Metallography) (Induction hardening)

L 07389-67 EWT(m)/EWP(w)/EWP(k)/EWP(t)/ETI IJ³(c) JD/HW

ACC NR: AP6027741 SOURCE CODE: UR/0370/66/000/004/0064/0067

AUTHOR: Kal'ner, V. D. (Moscow); Kidin, I. N. (Moscow); Bernshteyn, M. L. (Moscow)

ORG: None

TITLE: Electrical ausforming of spring steel

SOURCE: AN SSSR. Izvestiya. Metally, no. 4, 1966, 64-67

TOPIC TAGS: metal ausforming, spring steel, mechanical heat treatment, metal deformation, ductility

ABSTRACT: The authors study the possibility of using high-speed electrical heating in ausforming of 55KhGR spring steel. The contact method was used for heating to 950°C before deformation at rates of 15, 30, 45 and 120°/sec. The back-up roll on the mill was used as one of the contacts so that deformation was done practically at the heating temperature. The blanks subjected to reduction measured 120x15 mm with thicknesses from 3 to 5 mm depending on the degree of deformation (15-38%). Immediately after rolling, the workpiece went into a quenching vat with oil or onto a cold metal plate (for air-quenching) and was then tempered at 250°C for one hour. The mechanical properties were studied on flat tensile specimens with working dimensions of 30x2x4 mm and compared with similar data for ausforming in a conventional electric furnace (heating temperature 950°C with holding for 5 minutes). An increase in the heating rate

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UDC: 539.4.015/019

L 07389-67

ACC NR: AP6027741

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results in additional improvement in mechanical properties with reductions of 15-30%. For small deformation or none at all, high-speed electric heating produced a slight increase in tensile strength although brittle fracture was observed with an elongation of less than 2%. No further increase in tensile strength was observed with deformation of more than 25% and there was even a slight reduction in tensile strength at a heating rate of 120 deg/sec while specimens subjected to conventional ausforming showed a continuous increase in strength at deformations of 37-40%. Strength characteristics are practically identical for both types of ausforming at these deformations. Electrical ausforming improves ductility with elongation reaching 9% as against 6.5% for conventional ausforming with corresponding figures of 35-40% against 18-20% for constriction. Improvement in the properties of 55KhGR spring steel with conventional ausforming is reached at a reduction of 25-30%, while this "threshold" deformation is much more pronounced in electrical ausforming and is reached at a reduction of approximately 15-20%. The maximum difference between strength and ductility produced by electrical and conventional ausforming is also observed at reductions of 15-20%. Orig. art. has: 4 figures, 1 table.

SUB CODE: 11/ SUBM DATE: 27Nov64/ ORIG REF: 004

Card 2/2 LS

ACCESSION NR: AP4019482

S/0133/64/000/003/0269/0270

AUTHORS: Kal'ner, V. D.; Kossovskiy, L. D.; Bernshteyn, M. L.

TITLE: Thermomechanical treatment of 55KhGR steel springs

SOURCE: Stal', no. 3, 1964, 269-270

TOPIC TAGS: steel, 55KhGR steel, spring band, thermal treatment of steel, mechanical treatment of steel, rolling 55KhGR steel, hardening, compressed air hardening, water hardening, tempering, 300-2 rolling mill

ABSTRACT: A series of experiments was performed in Chelyabinskiy metallurgicheskiy zavod (Chelyabinsk Metallurgical Plant) on the different thermal and mechanical treatments of steel spring bands. The samples were made of 55KhGR steel, were 7.5 x 63 mm in size, and their chemical composition (%) was:

C	Mn	Si	S	P	Cr	Ni	Cu	B
0.58	1.00	0.27	0.014	0.021	1.13	0.16	0.15	0.0023

After hot rolling at 930-950C in the 300-2 mill, the samples were hardened in a jet of compressed air or in water. Their hardness was 57-58 and 60-61 Rc. They showed no usual cracking after water hardening (due to an increase of their

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ACCESSION NR: AP4019482

residual plasticity). They were tempered at 240-265C. It was established that a combined thermal and mechanical processing resulted in a good combination of high strength and the desired plasticity. The assemblies for thermomechanical treatment of steel spring bands are not complicated, can be installed in any plant, and may be used in mass production operations. The strength and plasticity values of the 55KhGR spring bands obtained in a continuous rolling mill were much higher than those obtained in the laboratory. The hardening effect of the thermomechanical treatment produced lasting results. Orig. art. has: 3 tables and 2 figures.

ASSOCIATION: none

SUBMITTED: 00

DATE ACQ: 27Mar64

ENCL: 00

SUB CODE: ML

NO REF SOV: 002

OTHER: 000

Card 2/2

L 36090-66 EWT(m)/T/EWP(t)/ETI IJP(c) JD

ACC NR: AP6016592

(A,N)

SOURCE CODE: UR/0129/66/000/005/0033/0037

44
42
B

AUTHORS: Shepelyakovskiy, K. Z.; Shklyarov, I. N.; Kal'ner, V. D.

ORG: Moscow Automobile Works (Moskovskiy avtomobil'nyy zavod)

TITLE: Case hardening with deep induction heating--a promising method for heat treatment of steels

SOURCE: Metallovedeniye i termicheskaya obrabotka metallov, no. 5, 1966, 33-37

TOPIC TAGS: case hardening, fatigue strength, tempering, steel, induction hardening, carbon steel/ 45RP steel, 47GT steel, 45G steel, 40KhGRT steel, 55PP carbon steel

ABSTRACT: A new method of case hardening with deep induction heating is described. This method was developed at the Central Scientific Research Institute of Ferrous Metallurgy (TsNIICHERMET). The specific power is 0.05--0.2 kW/cm²; the heating rate in the area of phase transitions is 2--10 deg/sec; and the heating time is 20--100 sec. Steel 55PP of reduced hardenability and steel 45RP of regulated hardenability are used. It was found that the strengthened core increases the strength of the part, the thinner the hardened layer. Case-hardened 45RP steel was used for the differential axles of ZIL-130 automobiles (see Fig. 1). The hardening temperature was about 900C for 70 sec. The axles were then tempered at 250C for 1.5 hrs. The method has substantial advantages over straight-through heat treatment and conventional case

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UDC: 621.78.5

L 36090-66

ACC NR: AP6016592

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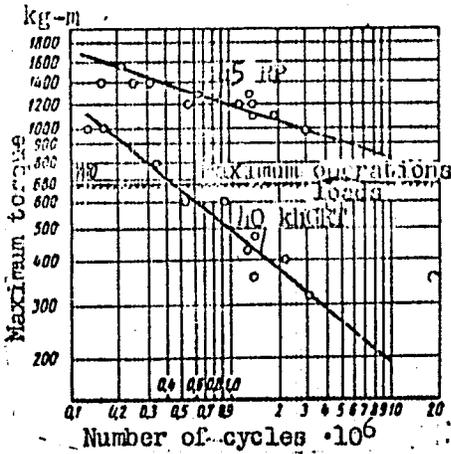


Fig. 1. Fatigue strength of differential axles of ZIL-130 of 40KhGRT steel (after hardening from 870C and tempering at 220C) and 45RP steel (case hardening with deep heating and tempering at 250C)

hardening. Orig. art. has: 4 tables, 1 diagram, 1 graph, and 1 photograph.

SUB CODE: 11/3/ SUBM DATE: none/ ORIG REF: 009

LS
Card 2/2

DEENICHIN, P.; MILENKOV, Kh.; KALNEV, M.

Experimental studies on the healing of the bronchial stump.
Folia med. (Plovdiv) 7 no.1:50-55 '65

1. Vysshiy meditsinskiy institut imeni I.P. Pavlova, g. Plovdiv,
Bolgarly, kafedra bol'nichnoy khirurgii (Rukovoditel' : prof.
L. Khaydudov); kafedra patologicheskoy anatomii (vrach rukovoditel':
prof. Yu. Toshev).

KALNIBOLOTSKIY, M. L. DOCENT

PK 39/49T28

USSR/Electricity
Circuits, Electric
Bibliography

Apr 49

"Dissertations at the Kiev Polytechnical Institute,"
Docent M. L. Kalnibolotskiy, Cand Tech Sci, 2 pp

"Elektrichestvo" No 4

Summary of 16 dissertations submitted for degree
of Candidate of Technical Science and one
dissertation for degree of Doctor of Technical
Science. Latter was submitted by I. I. Gregen'
on "The Influence of the Electrical System on the
Voltage Regenerated at Switch Contacts After
Short Circuiting."

39/49T28

KALNIBLOJSKIY, M. I.

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to let work / apparatus
Posobiye K Laboratornym Rabotam Po Apparature Raspiedglitel'nykh Usiroystu Elektricheskikh Stantsiy. Kiev, 1954 22 SM. (Kievskiy Ordens Lenina Politekhn. In-t. Kafedra Tsent. Elektr. Stantsii). Bespl. V Per. Ch.1. 124s S. Chert. 400 EKZ.--(54-55373 621.311.172 t 621.316.5) 076.5

referred to

SC: Knizhnaya, Letopis, Vcl. 1, 1955

KALNIBOLOTSKIY, MAKSIM LEONT'EVICH

BUDNITSKIY, Abram Borisovich; ~~KALNIBOLOTSKIY, Maksim Leont'evich;~~
BENCHUNOVA, O., vedushchiy redaktor; PATSALYUK, P., tekhnicheskii
redaktor

[Short circuit currents] Toki korotkogo zamykania. Kiev, Gos.
izd-vo tekhn.lit-ry USSR, 1956. 199 p. (MIRA 10:7)
(Short circuits)

KALNIBOLOTSKIY, M. L.

PHASE I BOOK EXPLOITATION SOV/3916

Budnitskiy, Abram Borisovich, and Maksim Leont'yevich Kalnibolotskiy

Toki korotkogo zamykaniya (Short-Circuit Currents) 2d ed., rev. and enl.
Kiyev, Gostekhizdat USSR, 1959. 214 p. 4,000 copies printed.

Ed.: O. Nemchunova; Tech. Ed.: F. Patsalyuk

PURPOSE: This is a textbook for students of higher schools of electrical engineering and can also be used by technicians working in the field of power engineering.

COVERAGE: The textbook deals with problems related to the calculation of short circuit currents during breakdown at any point in a system. The book contains a brief analysis of phenomena occurring in a system during short circuitry and describes the functioning of components under breakdown conditions as well as methods of calculating initial, steady, and intermediate values of short-circuit currents. No personalities are mentioned. There are 7 references, all Soviet.

Card 1/1 →

8 (0)

AUTHORS:

Greben', I. I., Kalnibolotskiy, M. L., SOV/105-59-6-23/28
Nesterenko, A. D., Postnikov, I. M.,
Fedchenko, I. K., Kholmkiy, V. G., Chizhenko, I. M., and Others

TITLE:

Professor N. N. Vasil'yev (Professor N. N. Vasil'yev). On His
70-th Birthday (K 70-letiyu so dnya rozhdeniya)

PERIODICAL:

Elektrichestvo, 1959, Nr 6, p 92 (USSR)

ABSTRACT:

Nikolay Nikolayevich Vasil'yev began his career in 1914, after having completed his studies at the Petrogradskiy politekhnicheskii institut (Petrograd Polytechnic Institute), as head of the electric workshop of the Central Workshop of the South-Western Railroad in Kiyev. From 1927 to 1930 he also taught at the Kiyevskiy politekhnicheskii institut (Kiyev Polytechnic Institute). In 1930 he was appointed Docent in ordinary and in 1931 Professor at the Chair of Electrical Machines at the same Institute. In 1937 he was appointed head of the newly established Chair for the Electrification of Industrial Enterprises. He installed a laboratory with this chair. During the second world war he was evacuated to Tashkent with the entire Institute. After his return he kept the same chair. He wrote more than 20 scientific publications, and constantly endeavored to

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Professor N. N. Vasil'yev. On His 70-th Birthday

SOV/105-59-6-23/28

strengthen the relations between the chair and industry. He was awarded the Lenin Order, the Order of the Red Banner of Labor and the medal "For Heroic Work in the Great Patriotic War". There is 1 figure.

Card 2/2

BUDNITSKIY, Abram Borisovich; KALNIBOLOTSKIY, Maksim Leont'yevich;
NEMCHUNOVA, O., red.; PATSYALYUK, P., tekhn.red.

[Short-circuit currents] Toki korotkogo zamykania. Izd.2.,
ispr. 1 dep. Kiev, Gos.izd-vo tekhn.lit-ry USSR, 1959. 214 p.
(MIRA 13:5)

(Electric currents)

BUDNITSKIY, Abram Borisovich; KALNIBOLOTSKIY, Maksim Leont'yevich;
NEDZEL'SKIY, Stanislav Il'ich; Prinsipali uchastiy: ISHCHENKO,
Yu.D.; BLAGOY, V.S.; NEMCHUNOVA, O., red.; MATUSEVICH, S.,
tekh. red.

[Electric equipment of thermal electric power plants] Elektro-
oborudovanie teplovykh elektricheskikh stantsii. Kiev, Gos.
izd-vo tekhn. lit-ry USSR, 1961. 363 p. (MIRA 14:9)
(Electric power plants--Equipment and supplies)

KOZ'MA, Aleksey Aleksandrovich; KALNIBOLOTSKIY, M.L., dots.,
retsensent; KRASOVSKIY, V.N., inzh., retsensent
[deceased]; GUSEV, V.V., dots., otv. red.; NESTERENKO,
A.S., red.; TROPIMENKO, A.S., tekhn. red.

[Electric power plants, networks, and systems] Elektri-
cheskie stantsii, seti i sistemy. Khar'kov, Izd-vo
Khar'kovskogo univ., 1963. 379 p. (MIRA 17:1)

BUDNITSKIY, A.B.; VENIKOV, V.A.; GIZILA, Ye.P.; GREBEN', I.I.;
IYERUSALIMOV, M.Ye.; KALNIBOLOTSKIY, M.L.; KONDR, B.N.;
LOYEV, Ye.G.; NESTERENKO, A.D.; PAVLOV, V.M.; POSTNIKOV, I.M.;
POHEGAYLO, K.M.; RADCHENKO, L.A.; SVECHNIKOV, L.V.; SYROMYATNIKOV,
I.A.; FEDOSEYEV, A.M.; FEDCHENKO, I.K.; KHODOROV, S.Ye.;
CHIZHENKO, I.M.; TSUKERNIK, L.V.

Professor Vasilii Grigor'evich, 1904 -; on his 60th birthday.
Elektrichestvo no.4:93-94 Ap '64. (MIRA 17:4)

KALNIBOLOTSKIY, Yu.M.

SVECHNIKOV, S.V.; KALNIBOLOTSKIY, Yu.M.

Special features in the performance of germanium diodes in rectifier circuits. Izv. vys. ucheb. zav.; radiotekh. no.1:68-75 Ja-F '58. (MIRA 11:4)

1. Rekomendovana kafedroy tekhnicheskoy elektroniki Kiyevskogo ordena Lenina politekhnicheskogo instituta.
(Germanium diodes) (Electric current rectifiers)

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S/143/61/000/012/003/005
D299/D305

9.4310(1003, 1143, 1150)

AUTHORS: Svechnikov, S.V., Candidate of Technical Sciences,
Docent, and Kalnibolotskiy, Yu.M., Engineer

TITLE: Test circuits for powerful semiconductor valves

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Energetika,
no. 12, 1961, 45 - 50

TEXT: A testing device is described for the study of semiconductor rectifiers. In order to ensure reliable operation of the rectifiers, it is necessary to protect the semiconductor valves from overload currents, so that the temperature of the p-n junction should not exceed the maximum permissible. Hence the importance of determining the overload capacity of germanium- and silicon valves. Experimental determination of the overload characteristics is based on measurements of the mean temperature inside the valve. The temperature of the p-n junction can be measured by a thermocouple or by using the dependence of the reverse current of the valve on the temperature of the p-n junction. The first method is less accurate

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Test circuits for powerful ...

than the second. The test circuits (i.e. the circuits used for determining the overload characteristics) described below, are based on the second method. The simplest test circuit involves measurement of the direct- and reverse current of the diode under investigation, whereby both currents flow through a single loop. This is inconvenient, as the slow surface-states involved may distort the results. A circuit with separate loops for the direct- and reverse current, is free of this shortcoming; the loops are divided by means of a synchronous switch. This circuit, too, is deficient, owing to the presence of the mechanical switch. The above shortcomings were eliminated by means of a circuit, developed by the authors, in which the synchronous switch has been replaced by a controlled current-generator. Fig. 4 shows a diagram of the circuit. Transformer T and ignitron I generate the direct-current pulses. The control device C provides for the appropriate moment of ignition of the ignitron. D₁ is the tested diode. The ratio of the mean currents through the ignitron and the semiconductor is of the order of 10³ - 10⁴. A block diagram of the testing device shows its other components: A rectangular-pulse formation unit, time re-

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D299/D305

Test circuits for powerful ...

rely, comparator and pulse counter. The testing device can be used for study of thermal processes in powerful germanium- and silicon valves, under any external conditions. It can be also used for designing valves of a pre-assigned overload capacity. The time dependence of the temperatures of the p-n junctions, obtained by means of the device, can be used for designing an equivalent thermal transient process; by investigating this process it is possible to determine the optimum valve characteristics for given requirements. As an illustration, the time dependence of the p-n junction temperature is plotted, and the equivalent electrical circuit is shown. In conclusion, the testing device described, permits studying the thermal characteristics of germanium- and silicon diodes which, in turn, makes it possible to ensure adequate reliability of rectifiers, while taking greatest advantage of the properties of semiconductor tubes. There are 6 figures and 5 references: 2 Soviet-bloc and 3 non-Soviet-bloc (in translation).

ASSOCIATION: Kiyevskiy ordena Lenina politekhnicheskii institut
(Kiyev Order of Lenin Polytechnic Institute)

Card 3/4

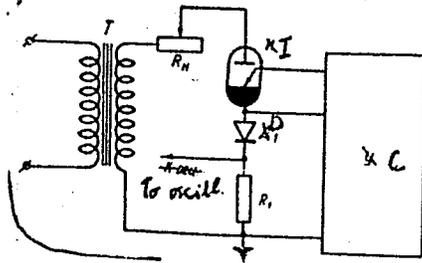
Test circuits for powerful ...

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S/143/61/000/012/003/005
D299/D305

PRESENTED: by Kafedra promelektroniki (Department of Industrial Electronics)

SUBMITTED: May 11, 1961

Fig. 4.



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KALNIBOLOTSKIY, Ya.M.; SVECHNIKOV, S.V.

Overvoltages in germanium rectifiers during switching operations.
Izv. vys. ucheb.; radiotekh. 5 no.1:66-76 Ja-F '62. (MIRA 15:5)

1. Rekomendovana kafedroy promyshlennoy elektroniki
Kiyevskogo ordena Lenina politekhnicheskogo instituta.
(Electric current rectifiers)
(Germanium diodes)

ACCESSION NR: AR4028479

8/0275/64/000/002/V031/V031

SOURCE: Referativny*y zhurnal. Elektronika i yeye primeneniye.
Svodny*y tom, Abs. 2V186

AUTHOR: Kalnibolotkiy, Yu. M.

TITLE: On the design of a capacitor-input rectifier with semicon-
ductor diode

CITED SOURCE: Tr. Kiyevsk. politekhn. in-ta, v. 39, 1962, 221-232

TOPIC TAGS: rectifier, capacitor input rectifier, semiconductor
rectifier, rectifier diode heat rise, pn junction heat rise, filter
capacitor effect, heat rise reduction.

TRANSLATION: An analysis of the thermal conditions of rectifier
diodes is presented. The heat rise of the p-n junction is shown to
be proportional to the effective current through the diode, i.e.,

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ACCESSION NR: AR4028479

for a specified value of rectified current, the heat rise increase with decreasing cutoff angle. The heat rise of the p-n junction is due essentially to losses due to the forward current. Losses in the case of an inverse voltage must be taken into account only when determining the inverse breakdown voltage. The formulas presented make it possible to estimate the heat rise of the p-n junction from a given specified rectified current with sufficient practical accuracy. The heating can be reduced by connecting either an additional resistor or a choke ahead of the filter capacitor. The necessary graphs and the values of the coefficients contained in the computation formulas are given and make it possible to calculate the thermal conditions of the diode. L. R.

DATE ACQ: 31Mar64

SUB CODE: SD

ENCL: 00

Card 2/2

KALNIBOLOTSKIY, Yu.M., inzh.

Use of an electrical analogy in studying the heating of a large
semiconductor rectifier. Izv.vys.ucheb.zav.; energ. 6 no.1:43-
50 Ja '63. (MIRA 16:2)

1. Kiyevskiy ordena Lenina politekhnicheskii institut. Predstavlena
kafedroy promyshlennoy elektroniki,
(Electric current rectifiers)

KALININOLOTSKIY, Yu.N.

Calculation of permissible operating current of germanium and
silicon rectifiers. Izv. vyz. uchob. zav.; radioelektr. 7 no. 2:
529-532 J1-Ag '62.
(MIRA 17:11)

KAINIBOLOTSKIY, Yu.M., kand. tekhn. nauk

Study of thermal operating modes of germanium and silicon rectifiers. Izv. vys. ucheb. zav.; energ. 7 no.11:116-120 N 164
(MIRA 1881)

1. Kiyevskiy ordena Lenina politekhnicheskoy institut. Predstavlena kafedrcy promyshlennoy elektroniki.

XAGANOV, I.I.; KALNIBOLOTSKIY, Yu.M.

Effectiveness construction of the parameter system of large power rectifiers.
Elektrichestvo no.7:70-74 J1 '65. (MIRA 18:7)

KALNIET, A.

Interglacial lakes with fossilized material in the southern part
of the Polish Lowlands. p. 405. ACTA GEOLOGICA POLONICA. Vol. 5,
no. 3, 1955.
Warszawa.

SOURCE: East European Accessions List (EEAL), LC, Vol. 5, no. 3, March 1956

PAFYLEV, I.I., kontr-admiral; KAL'NIK, V.N., inzhener-kapitan-leytenant

What purpose do teaching machines serve? Mor. sbor. 48 no.3:46-50
Mr '65. (MIRA 18:8)

KAL'NIK, V.N., inzh.-kapitan-leytenant; LEYBOVICH, A.G., kapitan 3-go
ranga; SARANTSEV, G.S., kapitan 2-go ranga

New methods of training specialists. Mor. sbor. 46
no.10:14-20 0 '63. (MIRA 18:12)

KALNIN, A. [Kalnins, A.], akademik

Forest and chemistry. Nauka (izhyttia 12 no.7:18-19 J1 '62.

(MIRA 16:1)

1. AN Latviyskoy SSR, direktor Instituta lesnogo khozyaystva i
khimi drevesiny AN Latviyskoy SSR.

(Wood—Chemistry)

KHALIFIN, A., general-mayor aviatsii zapase; KALNIN, A., inzhener-polkovnik

link trainer and an airplane. Av. i kosm. 47 no.7:55-59 JI '64.
(MIRA 17:7)

AVRORIN, N.A.; ANDREYEV, G.N.; COLOVKIN, B.N.; KAL'NIN, A.A.

[Plant introduction in Arctic regions. Pereselenie rastenii na Poliarnyi Sever. Moskva, Izd-vo "Nauka." Pt.1. [Results of the introduction of herbaceous plants in 1932-1956] Rezul'taty introduksii travianistykh rastenii v 1932-1956 gg. 1964. 498 p. (MIRA 17:8,

1. Polyarno-al'piyskiy botanicheskii sad.

L 09918-67 EWT(m)/EWP(t)/ETI IJP(c) JD/JG

ACC NR: AP6033560

SOURCE CODE: UR/0181/66/008/010/2982/2985 74

AUTHOR: Kal'nin, A. A. ; Pasyukov, V. V. ; Tairov, Yu. M. ; Yas'kov, D. A.

ORG: Leningrad Electrotechnical Institute im. V. I. Ul'yanov (Lenin) (Leningradskiy elektrotekhnicheskiy institut)

TITLE: Photoluminescence of silicon carbide conta'ning a beryllium impurity

SOURCE: Fizika tverdogo tela, v. 8, no. 10, 1966, 2982-2985

TOPIC TAGS: photoluminescence, silicon carbide, beryllium, impurity, luminescence extinction, electron hole, luminescence

ABSTRACT: Beryllium when added to silicon carbide is shown to render the latter luminescent. Both electron- and p-type silicon carbide samples were found to luminesce. At the same time, the spectral radiation composition was found to vary. The activation energy required for the extinction of luminescence for electron- and p-type silicon carbide samples is about the same (approximately 0.32 ev). Electro-luminescent light sources were prepared in which electrons were injected into luminescent p-type silicon carbide samples. Orig. art. has: 3 figures. [Authors' abstract]

SUB CODE: 20/SUBM DATE: 16Mar66/ORIG REF: 005/OTH REF: 006/

Card 1/1 *plu*

L OOO 4-66 EWT(1)/T/EWA(h) IJP(e) AT
ACCESSION NR: AP5021366

UR/0120/65/000/004/0213/0216
536.587

49
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B

AUTHOR: Kal'nin, A. A.; Tairov, Yu. M.; Yas'kov, D. A. 56, 44 55, 44 37, 44

TITLE: An automatic temperature control system for the growth of crystals of high temperature resistant semiconductor materials

SOURCE: Priboiy i tekhnika eksperimenta, no. 4, 1965, 213-216 21, 44, 55

TOPIC TAGS: ⁷⁵⁵silicon ⁶single crystal, automatic temperature control, crystal structure, automatic control system, crystal growth, semiconductor single crystal, single crystal growing

ABSTRACT: An automatic temperature control system for a 30 kw device intended for the growth of silicon carbide crystals is discussed. The instrumental error is reduced by a) the use of electron multiplication which reduces the intensity of photocathode illumination with simultaneous retention of a good signal-to-noise ratio; b) the illumination of the photocathode by short pulses with the subsequent restitution of the spectrum of the favorable signal; and c) by thermostatic control of the receiver, automatic brightness control, and uniform illumination of the photocathode. The range of temperature control is between 2400 and 2600C but this may be changed by an appropriate choice of the obtuator filter, the dynamic error Cord 1/2

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ACCESSION NR: AP5021366

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of the control does not exceed ± 30 , and the transient process (when operating with a computer) is reduced 88 to 90% compared to operation with commercial linear regulators. The influence of the thermostatic control of the growth zone on the perfection of the structure of the resulting crystals is also discussed. Orig. art. has: 3 formulas and 3 figures.

ASSOCIATION: Leningradskiy elektrotekhnicheskij institut (Leningrad Electrical Engineering Institute)

SUBMITTED: 21Dec64

44, 55
ENCL: 00

SUB CODE: IB, SS

NO REF SOV: 002

OTHER: 001

Card

mcr
2/2

L 25460-66 EWT(1)/EWT(m)/ETC(f)/EWG(m)/EWP(e) IJP(c) AT/WA/JD/JG
 ACC No: AF6009691

SOURCE CODE: UR/0181/66/008/003/0948/0951

AUTHOR: Kal'nin, A. A.; Tairov, Yu. M.; Yas'kov, D. A.

ORG: Leningrad Electrotechnical Institute im. V. I. Ul'yanov-Lenin (Leningradskiy elektrotekhnicheskiy institut)

TITLE: Luminescence of silicon carbide with beryllium impurity

SOURCE: Fizika tverdogo tela, v. 8, no. 3, 1966, 948-951

TOPIC TAGS: silicon carbide, beryllium, semiconductor impurity, luminescence, luminescence center, activated crystal, pn junction, volt ampere characteristic, electro-luminescence

ABSTRACT: The purpose of the investigation was to confirm experimentally that it is possible to use certain elements of group II as luminescence activators in silicon carbide crystals. Some of the advantages of using beryllium as the doping impurity are briefly discussed. Luminescent p-n junctions were produced by introducing beryllium in silicon carbide containing 8×10^{17} - 5×10^{18} cm^{-3} nitrogen as the luminescence coactivator. The procedure and apparatus for preparing the junctions are briefly described. The resultant junctions had a volt-ampere characteristic featuring a large drop in the forward direction. In addition to the volt-ampere characteristic, the electroluminescence spectra and the lumen-ampere characteristics of the junction are presented. The results show that the electroluminescence of the obtained p-n junctions cannot be connected with the presence of boron, and can be attributed to

Card 1/2

L 25460-66

ACC NR: AP6009591

the activating action of beryllium in the silicon carbide. Evidence in favor of the foregoing statement is presented. Orig. art. has: 4 figures. 0

SUB CODE: 20/ SUBM DATE: 20Jun65/ ORIG REF: 003/ OTH REF: 001

Card 2/2 CC

(
SOV/132-59-8-11/18

AUTHOR: Kalnin, A.D.

TITLE: An Experiment in Equipping Water Wells Drilled in Fine-Grained Varieties of Neogene Sands of the West-Siberian Lowland

PERIODICAL: Razvedka i okhrana nedr, 1959, Nr 8, pp 47-48 (USSR)

ABSTRACT: The author describes an experiment in fitting water wells (bored in argillaceous and sandy grounds) with carcass-wire filters instead of frame filters. The experiment was done by the Gipromtransstroy Expedition at different railway stations of the Sverdlovsk and Omsk railways in the Sverdlovskaya, Tyumenskaya, and Omskaya Oblast's. Drilling rigs of KAM-500 and KA-2M-300 types were used in the operations. The experiment showed that water delivery from wells equipped with carcass-wire filters increased considerably. The experiment is described in detail. There is 1 table.

ASSOCIATION: Gipromtransstroy
Card 1/1

SIVCHIK, B.S.; KAIRIN, A.I.; ABOLINA, S.Ya.; RAZUMOV, A.I.

[Red Latvian cattle] Buryi latviiskii skot. Moskva,
Kolos, 1965. 197 p. (MIRA 19:1)

ZAPOL'SKIY, D.G.; ANANIYCHUK, N.A.; KAL'NIN, A.O.

Using a rotor dust collector for catching vapors and aerosols of caprolactam. Khim.volokn. no.5:64-66 '61. (MIRA 14:10)

1. Kiyevskiy filial Vsesoyuznogo nauchno-issledovatel'skogo instituta iskusstvennogo volokna.
(Nylon) (Factory sanitation)

KALNIN', A. YU.

Kalnin', A. Yu. "Results of the use of pneumoperitoneum during intestinal and pulmonary tuberculosis," *Zdravookhraneniye Sov. Latvii*, 1948, Symposium 2, p. 71-85 - In latvian language - Resume in Russian

SO: U-3850, 16 June 53, (Letopis 'Zhurnal 'nykh Statey, No. 5, 1949)

KALANIN, B., Imp.

Transistorized receiver for reception of local radio broadcasts.
Radio no. 7443-45 '64.

(MIRA 1867)

ALEKSANDROVA, M. (Riga); INDULEN, M. (Riga); KALNIN', B. [Kalnina, B.] (Riga);
KANEL', I. [Kanele, I.] (Riga); KONDRASHOVA, M. (Riga); KUKAIN, R.
[Kukainis, R.] (Riga)

Virological and serologic studies in connection with the inoculation
with live vaccine against poliomyelitis in Latvia; a preliminary
report. Vestis Latv ak no.2:149-152 '60. (EEAI 10:1)

1. Akademiya nauk Latviyskoy SSR, Institut mikrobiologii.
(LATVIA--POLIOMYELITIS)

KALIN, D.

Determining the definitive orbit of the Comet Schwassmann-Wachmann 3,
1930. Astron. tsir. no. 145:2-4 Ja '54. (MLRA 7:6)

1. Astronomicheskiy sektor Instituta fiziki AN Latvyskoy SSR.
(Comet, Schwassmann-Wachmann's (3 1930 VI))

ACC NR: AP7005269

SOURCE CODE: UR/0371/66/000/006/0101/0102

AUTHOR: Kalnin, D. O.; Shavrts, K. K.; Feldmane, E. E.

ORG: Physics Institute, AN Latvian SSR (Institut fiziki AN LatvSSR)

TITLE: Dislocation density and radiation expansion in crystals

SOURCE: AN LatSSR. Izvestiya. Seriya fizicheskikh i tekhnicheskikh nauk, no. 6, 1966, 101-102

TOPIC TAGS: lithium fluoride, ^{crystal} radiation expansion, ^{crystal} dislocation, neutron irradiation, ^{plastic deformation, crystal defect}

ABSTRACT: Radiation expansion and point defects in crystals were studied experimentally. LiF crystals (10 x 10 x 2 mm) grown in a 10⁻⁴ ton vacuum were used. Dislocation density, determined by FeCl₃ etching, was 10⁴ cm⁻² for non-worked samples, and 10⁶ cm⁻² after plastic deformation at 1000K. The samples were irradiated with doses of 4.10¹⁴—4.10¹⁷ neutrons/cm³. At low doses fractional volume expansion decreased slowly with increasing dislocation density; at high doses no effect was detected. The results indicate that an increase in dislocation density from 10⁴ to 10⁶ cm⁻² has little effect on the radiational change in the volume in the range up to 5 x 10¹⁶ neutrons/cm³. This suggests that dislocations play an unimportant role in the crystal expansion. Orig. art. has: 1 figure.

SUB CODE: 20/ SUBM DATE: none/ ATD PRESS: 5115

[JM]

Card 1/1

UDC: none

ACC NR: AP7001980

SOURCE CODE: GE/0030/66/018/002/0897/0909

AUTHOR: Shvarts, K. K.; Vitol, A. Ya.; Podin, A. V.; Kalnin, D. O.; Ekmanis, Yu. A.

ORG: Institute of Physics, ^{Academy of Sciences} of the Latvian SSR, Riga

TITLE: Radiation effects in pile-irradiated LiF crystals

SOURCE: Physica status solidi, v. 18, no. 2, 1966, 897-909

TOPIC TAGS: ^{inorganic} crystal, lithium fluoride, irradiation, neutron irradiation, electron paramagnetic resonance, ~~optical~~ absorption, electron density, ~~radiation~~ effect, irradiated crystal

ABSTRACT: A study was made of electron paramagnetic resonance, optical absorption (in the 2-6 ev range), and density variation in lithium fluoride crystals irradiated in a reactor in amounts up to 10^{19} neutrons/cm². The principal paramagnetic defects in the irradiated crystals were found to be F-centers. Conclusions are drawn on the process of radiational expansion in crystals and the formation of color centers. Some aspects of F-center aggregation in the thermal annealing of irradiated crystals are clarified. [Authors' abstract] [DW] -[SP] [W095]

Card 1/1 SUB CODE: 20/SUBM DATE: 20Aug66/ORIG REF: 013/OTH REF: 022/

KAL'NIN', E. [Kalnins, E.]

Prevention of carbamide poisoning of cattle. Veterinariia 40 no.5:
50 My 63. (MIRA 17:1)

1. Lutrin'skiy veterinarnyy uchastok, Latviyskoy SSR.

KALNIN', I., inzh.

Choosing an intermediate pressure for a two-stage refrigeration cycle (from "Khl'technik," no.2 1957). Khol. tekhn. 35 no.2:76
Mr-Ap '58. (MIRA 11:4

(Refrigeration and refrigerating machinery)

KAL'HIN', I. Insh.

New method of manufacturing heat insulating materials. Khol.
tekh. 35 no.6:57-58 N-D '58. (MIRA 12:1)
(Cold storage--Insulation)

14(1)

SOV/66-59-5-30/35

AUTHOR: Kalnin', I., Engineer

TITLE: Air Conditioning Installation with a High Degree of Accuracy in Maintaining Temperature and Humidity

PERIODICAL: Kholodil'naya tekhnika, 1959, Nr.5, p 73 (USSR)

ABSTRACT: The article refers to Nr 1 issue 1959 of "Kaelteteknik" giving the description of an installation for creating artificial climate in a number of compartments for the purpose of investigating the biology of plants. There are 9 compartments which are exposed to artificial light illuminating up to 8,500 lux. In the compartment plants are placed for cultivation and observation. The duration of experiments is from 3-6 months, during which even temperature up to 40°C is maintained within $\pm 0,1^{\circ}\text{C}$ and humidity within $\pm 0,2\%$ ranging from 60 to 100%. There are: 1 diagram and 1 German reference.

Card 1/1

8(5)

AUTHOR: Kalnin', I., Engineer

SOV/105-59-10-20/25

TITLE: Coordination Conference on Problems of the Power Supply of Vehicles

PERIODICAL: Elektrichestvo, 1959, Nr 10, p 86 (USSR)

ABSTRACT: A Coordination Conference on Problems of the Power Supply of Vehicles was held in Riga from June 12 to 13, 1959. It was attended by representatives of the Institut energetiki i elektrotekhniki Akademii nauk Latvyskoy SSR (Institute of Power Engineering and Electrical Engineering of the Academy of Sciences of the Latvian SSR), the Nauchno-issledovatel'skiy institut avtopriborov (Scientific Research Institute for Automotive Equipment), the Electromechanical Plant "REZ" in Riga, the Latvyskaya zheleznaya doroga (Latvian Railroads), etc. The Conference pointed out that great progress has been made since the First All-Union Conference on the Power Supply of Vehicles was held in Riga in May 1957. Automatic voltage regulators with semiconductor triodes have been developed. The Scientific Research Institute for Automotive Equipment designed new light weight alternators for buses and cars. Electrical equipment for passenger cars with alternating-current equipment is produced in series by

Card 1/2

Coordination Conference on Problems of the
Power Supply of Vehicles

SOV/105-59-10-20/25

the "REZ" Plant. New light alternators with installed germanium power rectifiers and contactless voltage regulators with semiconductor triodes and magnetic amplifiers have been developed. The Conference decided to hold the Second All-Union Conference on the Power Supply of Vehicles in Moscow next year, to which representatives of the electromechanical plant "FAGA" (East Germany), the East German Ministry of Transport, and a number of other foreign firms and organizations will be invited.

Card 2/2

ROZENFEL'D, Lev Markovich, prof., doktor tekhn.nauk; TKACHEV, Anatoliy Georgiyevich, prof., doktor tekhn.nauk; GURBYICH, Yevgeniy Semenovich, inzh.; ONOSOVSKIY, V.V., inzh.; SERDAKOV, G.S., inzh.; TSYRLIN, B.L., inzh.; KALNIN, I.M., inzh.; ROMANOVSKIY, N.V., inzh.; YATSUNOV, I.F., inzh.; DANILOVA, G.N., dotsent; MIKHAL'SKAYA, R.N., inzh.; KARNAUKH, M.S., inzh.; STUKALENKO, A.K., inzh.; IL'IN, A.Ya., inzh.; TSIPERSON, A.L., red.; BABICHEVA, V.V., tekhn.red.

[Examples and designs of refrigerating machines and apparatus]
Primery i raschety kholodil'nykh mashin i apparatov. Moskva, Gos. izd-vo torg.lit-ry, 1960. 237 p. [___Thermodynamic diagrams of the refrigerants used] ___Termodinamicheskie diagrammy rabochikh tel kholodil'nykh mashin. (MIRA 13:9)
(Refrigeration and refrigerating machinery)

KALNIN', I.M., inzh.

Determination of the basic parameters of a centrifugal compressor.
Khol. tekhn. zh. no. 1:21-26 Ja-F '61. (MIRA 14:4)

1. Tsentral'noye konstruktorskoye byuro kholodil'nogo
mashinostroyeniya.
(Air compressors)

KALNIN', I.M., inzh.

Nomographs for calculating the running wheels of a centrifugal compressor. Khol. tekhn. 38 no.3:11-18 My-Je '61. (MIRA 15:1)

1. Tsentral'noye konstruktorskoye byuro kholodil'nogo mashinostroyeniya.

(Compressors)

KALNIN, I.M., inzh.

Capacity control of compressors (from "Kältetechnik," no.12,
1960). Khol. tekhn. 38 no.β:68-70 My-Je '61. (MIRA 15:1)
(Compressors)

MAKIN, I.N.

Kinetic equations and collision transforms for gases with classical rotational degrees of freedom. Aerodin. razresh. gaz. no.1:92-106 '63. (MIRA 17:3)

KALNIN, K. [Kalnins, K.], dots., red.; LIELPETERS, P., red.; DARZINA, V.,
tekh. red.

[Utilization of land on collective farms] Kolhozu zemes iericiba.
Riga, Latvijas Valsts izdevnieciba, 1959. 255 p. [In Latvian]
(MIRA 14:12)

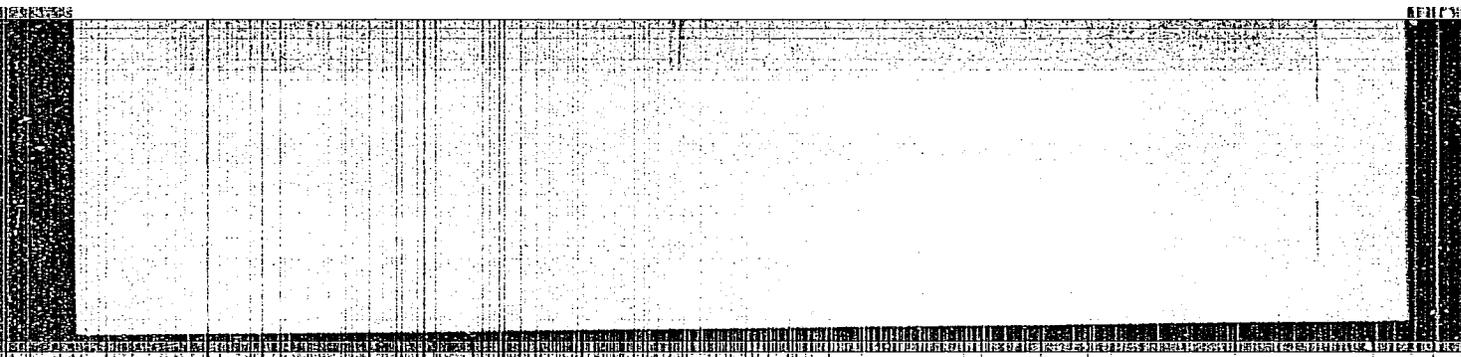
(Latvia--Collective farms)

KALAN, M M

Wood preservation is Latin
Kalin, Laminas PSE, Emulsion
Dilution, Paul, Robin
A mix of wood preservatives
colloidal solution of sodium
and Na₂CO₃ is used in this
method for wood preservation
emulsion paste, for exterior structures, the composition
consists of the asphalt emulsion (10 to 14%),
casein (1.0%), Na silicate (35% H₂O) (1.0%),
phenol and 41.9% H₂O. The pH is 10.0.
antiseptic. A 100% solution of 100 parts

"APPROVED FOR RELEASE: 08/10/2001

CIA-RDP86-00513R000620210006-4



APPROVED FOR RELEASE: 08/10/2001

CIA-RDP86-00513R000620210006-4"

KAL'NIN, M.M.

KAL'NIN, M.M.

Help from chemists to agriculture in the Latvian S.S.R., Soob.o nauch.
rab.chl.VKHO no.2:54-55 '55. (MIRA 10:10)

(Latvia--Agricultural chemistry)

KALMIN, M.M.

USSR/General and Special Zoology - Insects.

P.

Abs Jour : Ref Zhur - Biol., No 7, 1958, 30580

Author : Kal'nin, M.M.

Inst :

Title : A Method of Obtaining Aerosol Insecticides of DDT and Hexachlorane Without Apparatus.

Orig Pub : Sb. tr. po zashchite rast. Riga, AN LatvSSR, 1956, 261-263

Abstract : Candles saturated with DDT and HCCH prepared in the Mendelejev laboratory in Riga were tested. While the candles were burning, the decomposition of DDT and HCCH did not exceed 15%. The diameter of particles at their escape from the candle was 0.2-0.4 μ , and when solidified it was less than 5 μ . The rapidity of the fall of the particles in the room was 0.7-0.5 μ per hour; the particles penetrated everywhere and better than apparatus aerosols. Optimal and prolonged effect against domestic flies

Card 1/2

KAL'NIN, M.M., inzh.; SHTURLUKOVA, R.I., inzh.

Improving the quality of heat-insulating peat slabs. Torf.prom.
38 no.1:20-22 '61. (MIRA 14:2)

1. Vsesoyuznoye khimicheskoye obshchestvo imeni D.I.Mendeleyeva,
Latviyskaya SSR.
(Peat) (Insulating materials)

KAL'NIN, M.M. [Kalnins, M.M.]; STOROZHENKO, G., red.; INKIS, R.,
tekh. red.

[Laying linoleum; procedure and materials] Nastilka linoleuma;
stroitel'stvo i stroitel'nye materialy. Riga, TSentr. biuro
tekh. informatsii, 1962. 26 p. (MIRA 16:4)
(Linoleum)

ACC NR AF0013473

SOURCE CODE: UR/0374/66/000/002/0245/0252

AUTHOR: Kalnin', M. H.; Karliivan, V. P.; Babre, Ye. Ya.; Shkestere, I. G.

ORG: Riga Polytechnic Institute (Rizhskiy politekhnicheskiy institut)

TITLE: Adhesion of filled polyethylene-base compositions to steel

SOURCE: Mekhanika polimerov, no. 2, 1966, 245-252

TOPIC TAGS: adhesion, adhesive bonding, polyethylene, filler, steel

ABSTRACT: The effect of a series of fillers on the adhesion of polyethylene to steel during direct thermal bonding of a monolithic polymeric adhesive to a steel substrate was studied. P-20-10-V high-pressure and P-4007 low-pressure polyethylene and St3 steel were employed. The fillers were ground kaolin, talc, quartz sand, graphite, and asbestos. The strength of the adhesive bond of filled compositions of both types of polyethylene was found to increase with rising filler content up to 9-10% by volume. The character of the rupture of adhesive bonds with increasing filler content changes from adhesive to mixed, then to cohesive. A further increase in filler content weakens the adhesion. The adhesion of filler compositions and of the pure polymer increases with the degree of purity and specific surface of the steel. It also increases with rising temperature and duration of the bonding process in the range from 130° to 280°C and from 5 to 300 min. The adhesion of filled compositions is always strong-

UDC: 678:01.58

Card 1/2

I. 26115-66

ACC NR: AP6013473

er than that of the pure polymer. Orig. art. has: 6 figures, 5 tables.

SUB CODE: 11/ SUBM DATE: 06Oct55/ ORIG REF: 008/ OTH REF: 006

Cord 2/2

KALNIN, N.

KEVESH, P., kandidat tekhnicheskikh nauk.

"Lightweight concrete" by N. Kalnin. Reviewed by P. Kevesh. Stroi. mat.
3 no. 2:39 # '57. (MIRA 10:3)

(Lightweight concrete)

MOROZOV, G.; SAVIN, N.; TOKAREVA, O.; KAL'NIN, O.

We lower production costs. Prem. keep. no. 10:20-22 0 '55,
(Efficiency, Industrial) (MLRA 9:4)

L4(9)

SOV. 95-56-4-0/12

AUTHORS: Levendeyev, A.F., Osovets, I.V., Kalnin, O.Zh., Engineers

TITLE: Method of Trenchless Gas Pipeline Laying in Cities (Opyt
bestransheynoy prokladki gorodskikh gazoprovodov)

PERIODICAL: Stroitel'stvo truboprovodov, 1959, Nr 4, pp 23-25 (USSR)

ABSTRACT: The Ukgorgazstroy has developed two methods of underground pipe laying without digging of trenches, -one is by piercing and the other by drilling. After a pit has been dug in which the machine is placed, the piercing is done by means of a mechanism operated by hand, which drives a cone shaped tool in horizontal direction through the soil, the movement being brought about by a screw spindle with ratchet gearing actuated by a hand lever. This machine designed by L.A. Chechel'nitskiy is intended for pipes up to 150 mm diameter, it has a capacity of 3m/hr and requires 2 attendants. Each movement to and fro of the lever pushes the pipe with the cone-shaped end piece 3 mm further into the soil. The other model, a horizontal boring machine also designed by L.A. Chechel'nitskiy, is intended for pipes up to 800 mm; it consists of a frame, a cutter, a carriage with mounted

Card 1/2

Method of Trenchless Gas Pipeline Laying in Cities

SOV/95-59-4-6/12

mechanisms, a set of endless screws and guides. The machine is equipped with a 14 kw electric motor and has a capacity of 3.41 cm/minute. The horizontal boring machine designed by V.G. Maydanov is intended for pipes up to 250 mm diameter. The machine works on the same principle as the one designed by Chechel'nitskiy with the difference that instead of electric drive this machine is equipped with a hand driven mechanism with bevel gears; it has a capacity of 5 cm/minute.

There are: 1 schematic diagram and 5 photos.

Card 2/2

OSOVETS, I.V., inzh.; KAININ, O.Zh.

Fully mechanized flow lines for insulating pipes.
Mont.i spets.rab.v stroi. 22 no.9:18-21 S '60.
(MIRA 13:8)

1. Treat Ukrorgasstroy.
(Gas pipes) (Insulating materials)

OSOVETS, I.V., inzh.; KALNIN, O.Zh., inzh.

Horizontal boring machine for trenchless laying of pipes. Mont.
i spets. rab. v stroi. 22 no.12:13-15 D '69. (MIRA 13:11)

1. Trast Ukgorgazstroy.
(Pipelines) (Boring machinery)

OSOVTETS, I.V., inzh.; KALNIN, O.Zh., inzh.

Using gas in road repairing. Avt.dor. 27 no.1:18-19 Ja '64.
(MIRA 17:4)

KALNIN', R. [Kalnins, R.]; SERMONS, G.

Optimal geometry of finite magnetic cores in uniform fields. Izv.AN
Latv.SSR no.3:54-62 '63.

(MIRA 16:5)

1. Institut fiziki AN Latvyskoy SSR.
(Cores (Electricity))

KALNIN, R.A.; NOVOSELOV, S.I., redaktor; LUKOMSKIY, S.I., redaktor;
GAVRILOV, S.S., tekhnicheskiiy redaktor.

[Algebra course for technical schools] Kurs algebry dlia tekhnikumov. Pod red. S.I.Novoselova. Moskva, Gos. izd-vo tekhniko-teoret. lit-ry, 1954. 327 p. (MLRA 8:1)
(Algebra)

KALININ, Robert Avgustovich; TIKHONOVA, B.P., redaktor; NEGRIMOVSKAYA, R.A.,
tehnicheskiiy redaktor

[Algebra course for technical schools] Kurs algebry dlia tekhnikumov.
Izd. 3-e. Moskva, Gos. izd-vo tekhniko-teoret. lit-ry, 1956. 316 p.
(Algebra) (MLRA 10:1)

KALNIN, ROBERT AVGUSTOVICH

N/S
611.2
.K1
1957

Kurs algebry dlya tekhnikumov (Algebra course for technical schools) Izd. 4., ster.
Moskva, Gostekhizdat, 1957.

316 p. diagrs., tables.

KALNIN, Robert Avgustovich; GORYACHAYA, M.M., red.; MURASHOVA, N.Ya.,
tekhn.red.

[Algebra] Algebra. Izd.5. Moskva, Gos.izd-vo fiziko-matem.
lit-ry, 1960. 320 p. (MIRA 14:4)
(Algebra)

KALNIN Robert Avgustovich; DONCHENKO, V.V., red. GUTER, R.S., re-
tsenzent; GRUDNIKOV, V.I., retsenzent

[Algebra and elementary functions] Algebra i elementarnye
funktsii. Izd. 2., ispr. Moskva, Nauka, 1965. 447 p.
(MIRA 18:8)

ACCESSION NR: AP4031875

S/0286/64/000/007/0067/0067

AUTHOR: Kalnin, R. K.; Ry*bakov, E.K.; Ginzburg, A. S.; Kirshteyn, G. Kh.;
Sermons, G. Ya.

TITLE: Flow meter for measuring electroconducting fluids. Class 42, No. 161514

SOURCE: Byulleten' izobreteny i tovarny*kh znakov, no. 7, 1964, 67

TOPIC TAGS: flow meter, electroconducting fluid meter, traveling magnetic field

TRANSLATION: The flow meter for measuring the velocity of electroconducting fluids covered by this author's certificate consists of two inductors, which set up traveling magnetic fields, two yokes with sensing coils, and an indicator. In order to eliminate any effect that the meter may have on the flow of the liquid, the two inductances are so oriented that their traveling magnetic fields meet head-on.

ASSOCIATION: none

SUBMITTED: 21Jan63

DATE ACQ: 29Apr64

ENCL: 00

SUB CODE: IE, SD

NO REF SOV: 000

OTHER: 000

Card 1/1

Kalinin, R.K.

PHYSICS BOOK REVIEWS

Academy of Sciences USSR, Institute of Physics... Electromagnetic Processes in Metals... Kirin, I.M., Ya.Ye. Klyavin, and I.A. Tyutin... Kuzin, Yu.K. Problems of a Conducting Cylinder in a Traveling Magnetic Field of a Cylindrical Inductor... Geylitse, A.I. The Motion of a Sphere in a Viscous Conducting Fluid in a Longitudinal Magnetic Field... Dushug, S.Ye., and Y.Ye. Kravchenko... Kirin, I.M., Ya.Ye. Klyavin, and I.A. Tyutin... Model of an Infinitely Long Channel With Liquid Metal in a Traveling Magnetic Field... Mikhelson, A.J. Calculation of D-C Conduction Pumps for Liquid Metals... Philippov, M.Y. Use of Monograms for Determining the Parameters of Induction Pumps... Philippov, M.Y. Empirical Calculation of Functions p(k, h) and psi(k, h)... Kobayashi, D.D. Low-Temperature Induction Brakes With an Opening of Circular Cross-Section in the Channel...

CONTENTS: This is a collection of fifteen articles by various authors on the investigation of electromagnetic processes in metals by modeling. Individual articles treat the following: the necessity for modeling particular phenomena; modeling of the interaction of ferromagnetic metals in a variable field on a metal; modeling of chokes with ferromagnetic tubes which have constant resistances; external fields produced by ferromagnetic tubes which have been magnetized in a constant uniform field oriented along the axis; the possibility of using galvanic baths and other models for investigating fields with continuously distributed electromagnetic forces, particularly turbulent fields; the magnetization of a system of interacting cylindrical particles; determination of the criterion relationships for the motion of an asynchronous engine rotor with similar mechanical characteristics (rotational moment, period) and electrical oscillations around a point of equilibrium and stationary forces acting on a cylindrical inductor; the motion of a sphere in a magnetic field of a cylindrical inductor; the motion of a sphere in a magnetic field of a cylinder and reflection of hydromagnetic waves of arbitrary polarization on the boundary of two ideal incompressible liquids with infinite conductivity; a study of phenomena in the turbulent flow of liquid metal in induction pumps under the effect of a traveling magnetic field; the operating principles of d-c pumps and the computation of their electromagnetic and hydraulic characteristics; abbreviating computations in designing linear induction pumps as suggested by I.A. Tyutin; nonographic computation of functions p(k, h) and psi(k, h); and the construction of a device producing thermal energy by an induced current. No precedents are mentioned. References accompany the articles.

11 Modeling of the Electrical Field of Electromagnetic Pump in a Galvanic Bath and an Electrical Conducting Paper
17 Some Problems of Magnetizing a System of Interacting Cylindrical Particles
27 Relationship Between the Magnetic Losses in a Ferrite Core With an Open Magnetic Circuit
33 Oscillatory Motion of a Conducting Axially Symmetrical Body in a Rotating Magnetic Field
47 Problems of a Conducting Cylinder in a Traveling Magnetic Field of a Cylindrical Inductor
57 The Motion of a Sphere in a Viscous Conducting Fluid in a Longitudinal Magnetic Field
67 Behavior of Hydromagnetic Waves at the Boundary of Two Media
77 Ya.Ye. Klyavin, and I.A. Tyutin (Successor) and I.Ye. Ushakov. Model of an Infinitely Long Channel With Liquid Metal in a Traveling Magnetic Field
83 Calculation of D-C Conduction Pumps for Liquid Metals
93 Use of Monograms for Determining the Parameters of Induction Pumps
103 Empirical Calculation of Functions p(k, h) and psi(k, h)
107 Low-Temperature Induction Brakes With an Opening of Circular Cross-Section in the Channel

KALNIN, R. [Kalnins, R.] (Riga)

Measuring method of complex magnetic inductivity of ferrite material.
Vestis Latv ak no.1:77-79 '60. (EEAI 9:11)

1. Akademiya nauk Latvyskoy SSR, Institut fiziki.
(Magnetic induction) (Ferrates)

KALNIN', T. K.

Cand Phys-Math Sci - (diss) "Modeling magnetic systems of constant field." Riga, 1961. 12 pp; with diagrams; (Ministry of Higher and Secondary Specialist Education RSFSR, Ural State Univ imeni A. M. Gor'kiy); 250 copies; price not given; (KL, 7-61 sup, 218)

KALVIN, T.K. [Kalnins, T.]

New induction pump for pumping liquid metals. Mag. gidr. no. 3:155
'65. (MIRA 18:10)

ACC NR: AP 5024916 BWA(11)/BIC(11) UD/HR/00/21 01/0007/00/000/000/000/000

AUTHOR: Kalnin', T.K. 48

ORG: None 8

TITLE: On a new induction pump for tranpumping liquid metals {

SOURCE: Magnitnaya gidrodinamika, no. 3, 1965, 155

TOPIC TAGS: magnetohydrodynamic pump, induction pump, liquid metal pump, liquid metal pump design

ABSTRACT: This is a brief notice describing the features of a liquid metal induction pump developed as a cooperative effort of members of the Institute of Physics, A.N. Latvian SSR and workers of the metallurgical works "Sarkanays metalurgs", Liepa (metallurgicheskiy zavod). The pump was used since early 1965 for transpumping liquid zinc from vats to the galvanizing boxes; the pumping capacity is 25 tons/hour of zinc at 450°C. The operating voltage of 6.6 volts is obtained from a 380 volts step-down transformer. The design complies with industrial safety requirements. Its principle was suggested by I.A. Veklenko and V.P. Katunin. The orig art, has 1 figure. 20, 23, 44 51

SUB CODE: 20/ SUBM DATE: none/

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Card 1/1 UDC 621.689:538.4

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ACC NR: AP7001329 SOURCE CODE: UR/0371/66/000/005/0095/0103

AUTHOR: Valdmanis, Ya. Ya.--Valdmanis, J.; Kalnin', T. K.--Kalnins, T.

ORG: Institute of Physics, AN LatSSR (Institut fiziki AN LatSSR)

TITLE: Electromagnetic pressure head and eddy current losses in induction pumps with moving poles

SOURCE: AN LatSSR. Izvestiya. Seriya fizicheskikh i tekhnicheskikh nauk, no. 5, 1966, 95-103

TOPIC TAGS: mhd, liquid metal pump, eddy current

ABSTRACT: The authors describe electromagnetic induction pumps with permanent-magnet excitation used for pumping liquid metals. The relations between the magnetic field, the electromagnetic pressure differential, and the eddy current loss in the metal are derived by using a simplified plane pump model with infinite geometry. The influence of higher harmonics of the magnetic field and other parameters on the operation of the pump is analyzed. Unlike three-phase induction pumps, where the higher harmonics reduce the torque, in this particular model the harmonics increase the torque. Methods of improving the efficiency of the pump by increasing the speed of the liquid metal and by decreasing the slip are proposed and discussed. Results of numerical calculations and experimental tests are presented and ways of improving the accuracy of the calculations are pointed out. Orig. art. has: 5 figures and 25 formulas.

SUB CODE: 13/14 / SUBM DATE: 24Dec65/ ORIG REF: 003

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ACC NR: AP6003211

EPF(m)-2/EWT(1)/EWT(m)/ETC(m)-6/T-2/EWP(t)

WW/DJ/JD/JG

SOURCE CODE: UR/0382/65/000/004/0091/0098

AUTHOR: Kainin', T. K.; Petrovicha, R. A.; Priyedniyeks, E. V.

ORG: none

87
B

TITLE: Pressure and electrical losses in a liquid metal layer of the salient pole induction pumps

SOURCE: Magnitnaya gidrodinamika, no. 4, 1965, 91-98

TOPIC TAGS: induction pump, liquid metal, MHD flow, magnetic field, magnetic reluctance, pressure measurement, pump, magnetic induction

ABSTRACT: Pressure growth in salient pole pumps is computed by taking account of the phase difference between the applied magnetic field of the poles and the field of the liquid metal. This difference in phase leads also to a modified, phase dependent, coefficient of magnetic reluctance. This coefficient has transverse and longitudinal values which are different and their ratio is plotted as a function of the separation of the neighboring magnetic poles. These coefficients are plotted for several values of a parameter which is a function of the conductivity and geometric characteristics. An expression for electrical losses is also derived. The

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method used to calculate these quantities depends on several simplifying assumptions. The more important assumptions are the constant velocity of the liquid metal and absence of higher field harmonics. Orig. art. has: 5 figures, 22 formulas.

SUB CODE: 20,09,13/

SUBM DATE: 07Apr65/

ORIG REF: 005/

OTH REF: 000

Card 2/2 *net*

KALNIN, V.

Regional conference on the history of science in the Baltic
States. Sov.zdrav. 18 no.7:50-51 '59. (MIRA 12:9)
(BAL TIC STATES--MEDICINE)

KALNIN, V.M., [translator]; ANOKHIN, P.K., prof., red.; LEVINA, A.B., red.;
POTAPENKOVA, Ye.S., tekhn.red.

[Regulatory processes in biology] Protsessy regulirovaniia v
biologii. Moskva, Izd-vo inostr.lit-ry, 1960. 278 p.

(MIRA 13:11)

1. Deystvitel'nyy chlen Akademii meditsinskikh nauk SSSR (for
Anokhin).

(CYBERNETICS) (PHYSIOLOGY)

KALNIN, V.V. (Tartu)

P.E.Wilde, outstanding medical practitioner of the Baltic countries
in the 18th century. Sov. zdrav. 20 no.9:70-74 '61. (MIRA 14:12)

1. Iz kafedry gigiyeny (zav. - doktor med. nauk M.A.Kask) Tartuskogo
gosudarstvennogo universiteta.

(WILDE, PETER ERNST, 1732-1785)

KALNIN, Ya.Ya. [Kalnins, J.]

First congress of traumatologists-orthopedists of the
Baltic Republics. Ortop., travm. i protez. 25 no.12:
76-77 D '64.

(MIRA 19:1)

MALKIN, Ya.Z.; SMIRNOV, M.P.; SERGIYENKO, V.Ya.; KOZHEVNIKOVA, G.I.;
KALNIN, Ye.I.; TARKHOV, N.G.; Prinimali uchastiye: MURSAITOV, Kh.I.;
ABDUGAPAROV, Sh.A.; BOVGUTA, I.D.; TKACHEV, S.P.; FILATOV, N.V.;
SVISTEL'NIKOV, A.M.; PRACHEV, V.N.; SHEYMAN, V.I.; ANTROPOV, A.D.;
SOBOLEV, Ye.D.; POPOVA, N.T.

Industrial testing of a new continuous method of copper removal
from crude lead. TSvet. met. 34 no. 3:15-22 Mr '61. (MIRA 14:5)

1. Eksperimental'nyy tsekh Chinkentskogo svintsovogo zavoda (for
Mirsaitov, Abdugaparov, Bovguta, Tkachev, Filatov, Svistel'nikov,
Prachev, Sheyman, Antropov, Sobolev, Popova).
(Lead---Metallurgy) (Copper)

KALNIN, Ye.I.; SOSNIN, A.P.; USTINOV, A.M.

Removal of copper and lead from cadmium solutions. TSvet. met.
38 no.9:45-47 S '65. (MIRA 18:12)

KALININA, D.; SIEOVA, O.

Planets, Minor - (127)

Determination of absolute perturbations of planet (127) Johanna by Bolin's method.
Fiz. un. mat. inst. Raksti No. 2; 1950.

Monthly List of Russian Accessions, Library of Congress, June 1953. Uncl.

BIYEZIN', A.P. [Biezins, A.], prof. (figa, ul. B.Altonavas, d.21, kv.2);
KALNIN, Yu.Ya. [Kalnins, J.]

Traumatologic and orthopedic outpatient service for the
population. Ortop., travm. i protez. 26 no.11:3-9 N '65.

(MIRA 18:12)

1. Iz Rihzskogo instituta travmatologii i ortopedii (direktor -
dotaent V.K. Kalnberz [Kalnberzs, V.]).